are known, but what has been done towards mapping out the distribution of these diseases, making a survey of the mosquitoes known to transmit them, and eradicating these mosquitoes? Again, are the investigations carried on in India in respect of malaria at all commensurate with the magnitude of the problem? Has kala-azar, one of the deadliest of diseases, been systematically attacked except by the enterprise of commercial companies? We are aware that a few commissions have investigated and reported on the epidemic outbreaks of this disease, but more than that is required, viz. patient, systematic research. Fortunately, this hitherto incurable disease appears to be now readily curable by tartar emetic, and if research can discover the mode of transmission of the disease the possibility of its extermination is great.

Sir Leonard Rogers points out the value of "team" work. No better examples could be given than the researches made through force of circumstances during the war on malaria and dysentery. It is this team work that is required in India, and, indeed, we have one excellent example of it, viz. the work of the Plague Commission. In our indictment of official apathy we had written on the subject of that devastating, widespread disease ankylostomiasis, or hookworm disease, but even as we wrote we learned that the Government of Bengal is instituting a campaign against it. If it be said that medical research is not being neglected in India, that large sums of money have recently been devoted to it, and that tropical schools are being formed in Bombay and Calcutta, we would say that these are good signs, but we still want more proof that those in high places are purged of their ignorance, and that at last the claims of scientific medicine are fully admitted.

J. W. W. S.

NOTES.

THE Croonian lecture of the Royal Society will be delivered on Thursday next, May 29, by Dr. H. H. Dale on "The Biological Significance of Anaphylaxis."

SIR J. J. THOMSON has been appointed by an Order of Council to be a member of the Advisory Council to the Committee of the Privy Council for Scientific and Industrial Research.

THE PRINCE OF WALES, Sir J. J. Thomson, Master of Trinity College, Cambridge, and president of the Royal Society, and Sir Norman Moore, Bart., president of the Royal College of Physicians, have been elected to the Standing Committee of the British Museum.

THE PRINCE OF WALES will be proposed for election to the Royal Society at to-day's meeting. He will be elected under the rule which provides that a prince of the blood royal may be proposed at an ordinary meeting of the society by any fellow, and may be put to the vote for election on the same day, provided that public notice of such proposal has been given at the preceding meeting.

AT a meeting of the Royal Society held on May 15 the following candidates nominated by the council were elected fellows of the society:—Prof. F. A. Bainbridge, Dr. G. Barger, Dr. S. Chapman, Sir C. F. Close, Dr. J. W. Evans, Sir Maurice Fitzmaurice, Dr. G. S. Graham-Smith, Mr. E. Heron-Allen, Dr. W. D. Matthew, Prof. C. G. Seligman, Prof. B. D. Steele, Major G. I. Taylor, Dr. G. N. Watson, Dr. J. C. Willis, and Prof. T. B. Wood.

THE Cullum geographical medal of the American Geographical Society for the present year has been awarded to M. E. de Margerie, the translator into French of Suess's "Das Antlitz der Erde," and an acknowledged authority upon the physical geography of the United States of America.

MR. W. R. DUNLOP referred in his letter on the cultivation of sponges, published in NATURE of May 8, to the present position of the subject in relation to the Colonial Office. We understand that nothing has been officially decided there in regard to a marine zoologist for the Imperial Department of Agriculture (W.I.), but the subject of sponge culture is engaging attention, and the question of sending a marine zoologist to study sponges in the West Indies will shortly come before a Committee.

ON Tuesday next, May 27, Prof. W. H. Bragg will deliver the first of two lectures at the Royal Institution on listening under water (the Tyndall lectures). On Thursday, May 29, Sir Valentine Chirol will give the first of two lectures on the Balkans. The Friday evening discourse on May 30, at 5.30 o'clock, will be delivered by Sir John Rose Bradford on a "filter-passing" virus in certain diseases. The closing discourse of the session will be given on June 6 by Sir Ernest Rutherford on "Atomic Projectiles and their Collisions with Light Atoms."

THE Research Defence Society has presented to the Home Secretary a protest against the Dogs' Protection Bill. Although the signing of such a document by physiologists may perhaps be regarded as natural, it is noteworthy that we find also the names of all the leading members of the medical profession, many dignitaries of the Church, men of affairs, and members of the legal and literary professions. It is pointed out that the passing of the Bill would be disastrous to the future of medical science in this country, while the interests of national health and efficiency would be seriously prejudiced. The latest report of the Medical Research Committee is referred to as showing the service rendered by physiological experiments for which the use of dogs is essential.

MR. H. S. BALL, late Assistant Inspector of Mines, G.H.Q., France, has communicated a valuable account of the work of the miner on the Western front to the Institution of Mining and Metallurgy (Bulletin, April, 1919, pp. 1–53). One of the most interesting sections of the paper is that which deals with mine listening instruments. The geophone, which reproduces the sound exactly, magnifies the intensity two and a half times. A single instrument is used when the object is merely to detect the existence and nature of sounds made by enemy miners, and a pair when the direction of the source of sound is required. The two geophones are placed on the ground about 18 in. apart, each connected with an ear of the listener, and they are moved until the sound is reproduced equally in both ears, the direction of the sound-source being then at right angles to the line joining the geophones. Observations were made at the end of a gallery, and, owing to the danger incurred at such a post and to the need for economising man-power, the seismo-microphone came into use, as many as fifty galleries being connected up to a switchboard of a central listening chamber, situated in some quiet spot behind the mining system. When sounds were heard in any particular gallery a listener was sent there with geophones to investigate. The enemy is known to have used several types of mine listening instruments, but no trace has been found of any instrument for the determination of direction.

ANNOUNCEMENT is made of the death of Gen. Stefanik, who may be better known to astronomers as Dr. Milan Stefanik, formerly attached to the Meudon Observatory. Dr. Stefanik was the son of a Slovak pastor, and about 1905, being then quite a young man, but already a doctor of science of Prague University, joined the Meudon Observatory as pupil astronomer, and, at the invitation of Dr. Janssen, proceeded to Spain with the expedition from that observatory to observe the total solar eclipse of August 30, 1905, and made spectroscopic observations on that occasion. During the succeeding year he pursued spectroscopic investigation of various kinds at Meudon, showing ingenuity in improving apparatus, and made a special study of the infra-red spectrum. In 1906 he went, with others of the staff, to the subsidiary observatory at Mont Blanc, where he continued his study of the infra-red from the point of view of telluric absorption, making his observations from different altitudes on the mountain. In 1910 Dr. Stefanik established at his own expense an observatory in the island of Tahiti to pursue his researches, and was therefore conveniently placed to observe the solar eclipse of April 28, 1911, when the line of totality crossed the Pacific. He made the short journey to the island of Vavau in the Tonga group, where he had for his neighbours the British observing parties under the leadership of Dr. W. J. S. Lockyer and Father Cortie, and, though the weather was not entirely favourable, it is believed that he obtained some successful results. In December, 1911, he was awarded the Wilde prize by the Paris Academy. At the outbreak of the war Dr. Stefanik was in Paris engaged in scientific work, and he at once joined the French Army as a private soldier, refusing a scientific appointment offered him by Marshal Foch. Shortly, however, he accepted commissioned rank, and rapidly passed through all grades to that of general. He met his death at a comparatively early age in an aeroplane accident in a flight from Italy to Bratislava, the capital of his native land of Slovakia.

As already announced, Col. D. Rintoul, senior science master and head of the physics department of Clifton College, died at Clifton on April 21 of pneumonia. Born at Forteviot, Perthshire, in 1862, Rintoul received his earlier education at St. Andrews and Edinburgh; he proceeded to Corpus Christi College, Cambridge, in 1881, and eventually became a fellow of his college. In December, 1885, he was appointed senior physics master at Clifton in succession to the late Prof. Worthington, who had left to become headmaster of the Royal Naval Engineering College, Devonport. With Rintoul in charge of physics and Shenstone of chemistry, Clifton more than maintained its prominent place among public schools for science teaching. Rintoul's own words, "If a teacher is wise he will encourage all independence of thought," best show the principles upon which he acted in school, while his firmness of character, quickness, and directness made his teaching distinctive. From 1904 to 1918 he was a housemaster. Always a keen soldier, Rintoul joined the 2nd Gloucester R.E. in 1888, retiring after some twenty years' service with the honorary rank of lieut.-colonel; he held the Territorial officers' decoration, and on the formation of the T.F. was nominated by the War Office as one of the military representatives on the T.F. County Association. When the late Major H. Clissold left Clifton in 1914 to raise a field company, Rintoul came out of his retirement, and again took command of the school corps, bringing it to a high state of efficiency, and for this service was specially thanked by the War Office. Rintoul's busy life made it impossible for him to do much original research, yet the many novel features of his own laboratory reflected his marked mental alertness and his live interest in all recent developments of his subject. Shortly before his death he gave valuable help to the Secondary School Examination Council. His elder son, Lieut. D. W. Rintoul, R.A.M.C., was killed in Flanders in 1914.

SIR W. RIDGEWAY contributes to the *Quarterly Review* for April an interesting paper on the subject of ancestor worship and the Chinese drama. He remarks that it is not merely triumphs and victories that are the themes of early dramas, any more than they are in the most advanced. They are drawn from appalling catastrophes and striking reversals of fortune, as in the Muharram celebrations of the Shiah Mohammedans, and in many examples from Greece, China, and Japan. There is no need to assume that China borrowed these themes from Greece or Greece from China, as such honouring of the dead is worldwide. Neither in China nor anywhere else did tragedy arise from the worship of seasonal or vegetational abstractions, but in the veneration and worship of the dead.

IN *Folk-lore* (vol. xxix., No. 4) Miss W. S. Blackman contributes an interesting article on the rosary in magic and religion, largely based on the extensive collection in the Pitt-Rivers Museum, Oxford. The use of the rosary, which claims high antiquity in the East, is based on that of knots as mnemonic signs, the highest development of which appears in the Peruvian Quipus. The Mohammedan form is usually assigned to Buddhism; but tradition and passages in the earlier literature point to a primitive type of rosary, such as would not be used if borrowed from a people who already possessed it in a highly developed form. The period of its introduction into Europe is usually fixed as that of the Crusades; but we learn from William of Malmesbury that Lady Godiva, wife of Count Leofric, who died before 1070, had a circlet of gems which she used in reciting her prayers. It seems, therefore, probable that the rosary has been evolved independently at more centres than one from the use of knots as mnemonic records.

THE *Avicultural Magazine* for May contains a temperately worded and convincing plea for the establishment of a bureau of economic ornithology, which, we trust, will be productive of good results. The urgency of the need for such an addition to the Board of Agriculture is, unfortunately, far from being realised, and it is highly probable that any attempt to press this matter would be met with the assurance that the time for such a scheme was not opportune, nor would its cost be justified. We fear that Dr. Collinge, the author of the article, is preaching to deaf ears, but sooner or later even the Board of Agriculture may be induced to listen to his plea.

THE development of the pericardiaco-peritoneal canal in the dogfish (Scyllium) and Acanthias has been re-examined by Mr. E. S. Goodrich (*Journal of Anatomy*, vol. liii., part 1, pp. 1–13, October, 1918). This canal leads in the adult from the pericardial to the peritoneal cœlom, and opens into the latter by paired apertures. Balfour suggested that the canal is a remnant of the wider communication between the two cavities in the embryo, but Hochstetter (1900) maintained that the early communication between the cavities became closed completely, and that the canal opening from one to the other in the adult is a new formation. Mr. Goodrich shows, with the help of excellent figures, that Balfour's original view is essentially correct, and that Hochstetter was mistaken in his interpretation.

Among the Notes from the Laboratory of the Wisconsin Geological and Natural History Survey is one (No. 11, issued December, 1918) by Mr. R. A. Muttkowski on a qualitative and quantitative survey of the fauna, with special reference to the insects, of Lake Mendota, which has an area of about 15 square miles and a maximum depth of 84 ft. That it forms a rich collecting ground is evidenced by striking records, *e.g.* a Myriophyllum plant with seven branches, totalling a length of 4 metres, held more than 15,000 specimens of *Hydra fusca.* Larvæ of *Corethra punctipennis,* which are abundant in the lake, are found in daylight in the bottom mud, where they chiefly hunt their food, but at night they come to the surface. Catches made in the summer of 1916 by means of a dredge showed that the number of larvæ in a square metre of the bottom ranged from 2000 to 18,000. Despite the transparency of the larva and pupa, these are eaten in large numbers by the fish of the lake, perch gorged with these larvæ being frequently found. The larvæ of the Ceratopogonine genera Palpomyia and Probezzia, when grasped in the water, straighten out and become rigid—one of the few cases where aquatic insects feign death in their normal environment. These larvæ are slender and elongate, and also resemble in their colour the filamentous algæ among which they live, but, nevertheless, they are frequent in the stomachs of the lake-fish. The author cannot confirm Prof. Miall's statement that those larvæ of Chironomus which live at the bottom and burrow in mud possess hæmoglobin, while those which live near the surface have colourless blood. He emphasises the absolute lack of any correlation between colour and oxygen-supply.

Mr. W. G. Craib (Notes from the Royal Botanic Garden, Edinburgh, vol. xi., November, 1918) has investigated the regional spread of moisture in deciduous-leaved trees during the felling season—that is, from late autumn until early spring. The species selected for examination was the sycamore (*Acer pseudoplatanus*), and the results, which are indicated by graphs and coloured diagrams of cross-sections, show that at the beginning of the season the centre of the tree is very wet, and at the end of the season there is a very wet region almost on the outside, while the centre is very dry. Between these two extremes are all the intermediate stages. The processes during the season are interpreted as follows: As the result of the water moving inwards from the outer zones, beginning at the base of the trunk, there is created an area of maximum moisture content, in any given cross-section, at the centre of the trunk. This inward current and the consequent plane of maximum moisture content at the centre gradually extend upwards in the trunk to the topmost region; but before this is reached and the centre of the trunk at the top of the bole has become a region of maximum moisture content, a radial movement has begun at the bottom of the trunk. This radial movement also progresses upwards, and by its means the region of maximum moisture content passes almost to the outside of the trunk, leaving the centre the driest region. The movements upwards and radially, both inwards and outwards, are going on synchronously at different levels in the trunk. The expressions "the sap is down" in autumn and "the sap is up" in spring are, therefore, meaningless; we should say rather "the sap is in" (the centre) or "the sap is out" (near the bark). These results in water-distribution are confirmed by experiments on other trees, and should do much to remove the prejudice against summer felling. The new facts brought to light also raise points of scientific interest as to the explanation of the activities in the tree during the so-called dormant period, or the reasons for the arrangement of the various pits in the tissue-elements.

The Sub-Committee of the Food Investigation Board has issued an interim report on refrigerator-cars, in which many improvements are suggested which could be carried out on existing cars, and others which could be applied in designing new cars. On the whole, the report reveals an unsatisfactory state of affairs, with divided responsibility falling partly upon the owners of the goods and partly upon the railway companies. Tests were made on several cars, both standing and running, showing that the insulation is not so effective as is desirable; that the deficiency in air-tightness is a serious matter; and that the practice of icing the ice-tanks is altogether inefficient. Another point worthy of note is the fact that the cubic capacity of cars now in use is much in excess of what they can carry when they are charged up to the safe load with frozen produce. This is rather an unfortunate state of things. It is well known that in order to obtain the best results in a chamber containing frozen produce it is desirable that it should be filled and well stowed, whereas in some cases the Committee found quite 35 per cent. of the car-space was vacant. This defect might be remedied by so designing the axles, etc., as to allow the present cars to be loaded to their capacity. The Committee would have pleasure in receiving from railway companies designs for refrigerator-cars embodying its recommendations.

A correspondent forwards us a newspaper cutting from South Africa directing attention to the possibilities of the prickly pear (Opuntia, spp.) as a source of industrial alcohol and other products. The plant in question covers thousands of acres of good soil in South Africa, and is a pest to farmers. To utilise it profitably would be a notable achievement in turning a waste product to account. Syrup can be obtained from the plant, the seeds contain an extractable oil, and an official report made some years ago is quoted as indicating that alcohol might be produced from the "tunas" or fruits at a relatively low cost. It may be remarked that the question of producing alcohol from the prickly pear has been carefully studied in Australia; the conclusion drawn, however, was unfavourable. Analysis showed that the total sugar content of the most common Australian species, *Opuntia inermis,* was only 0·6 per cent., and the highest amount of sugar in any of the species examined was but 2 per cent. Distillation experiments yielded alcohol equivalent to only 0·5 per cent. of the weight of the plant used, so that the manufacture was considered unprofitable, and, indeed, scarcely practicable. But the South African prickly pear is said to be much richer in sugar than the Australian product, and this, of course, may make all the difference between success and failure in utilising the plant.

In the Transactions of the Institution of Engineers and Shipbuilders in Scotland for December last there is published an interesting paper by Mr. W. B. Hird on "Electrical Ship Propulsion." The relative advantages of the various electrical methods of driving the propeller shaft are given, and also the results of trials on ships with electrical gearing. To illustrate the flexibility of the electric drive the author quotes the claims made for the equipment of the American battle-cruisers. They are designed for a speed of thirty-five knots, and require 180,000 h.p. to be delivered to four propellers running at 250 revolutions per minute. Supposing that one motor out of the eight breaks down, it can be instantly disconnected, and the loss in total power being only one-eighth, the speed would only be reduced by about one knot. For cruising speeds the ship will attain twenty-six knots with only two generating sets and four motors at work, and nineteen knots with one generating set only and four motors in use. At full power the efficiency claimed is 93 per cent. On the other hand, it was pointed out that the electric gear was considerably heavier than the mechanical gear, and its efficiency is about 2 per cent. lower. The author considers that there were spheres of usefulness for both the "geared turbine" and the "turbo-electric system," and that in some cases they might with advantage be used in combination.

SIR DUGALD CLERK read a paper on "The Distribution of Heat, Light, and Motive Power by Gas and Electricity" to the Royal Society of Arts on March 19. He takes as his basis of comparison for heating the amount of fuel consumed per thermal unit available in the gas or electricity, for lighting the amount of fuel consumed per candle-hour, and for motive power the horse-power-hours available per pound of fuel. From the point of view of coal conservation, he concludes that gas-heating should be used. Judging on this basis, there is little to choose between gas and electric lighting, but he is strongly in favour of gas motive power. Sir Dugald Clerk points out that of the coal-gas consumed in the United Kingdom probably 55 per cent. is used for heating, 35 per cent. for lighting, and 10 per cent. for motive power. He calculates that if electricity were used for these purposes 92 per cent. more heat units would be consumed. He concludes that, even assuming that the success of the super-electric stations so much discussed at present were assured, yet a gas service from a coal conservation point of view would be twice as economical. As regards thermal efficiency, this may be taken as correct, but it is unduly disparaging to the super-electric stations. The establishment of these stations would undoubtedly effect immense economies by abolishing many of the present wasteful electrical stations. Electricity was very largely used for driving the machinery upon which the winning of the war depended. It is difficult to believe that gas-engines would have been so successful. The rapidly extending use of electricity for cooking proves that more items than the thermal efficiency have to be taken into account before a just comparison can be made.

SIR ROBERT HADFIELD has sent us a translation of a recent statement by M. Honoré giving some account of the French Steel and Iron Masters' Association. It appears from this that in recent years French ferro-metallurgy has shown a pronounced tendency towards concentration of effort. From 383 in 1875 the number of works dropped to 208 in 1912, while the total iron and steel production increased from 900,000 to 4,900,000 tons. Whereas, therefore, the capacity of the works averaged 2350 tons in 1875, it had been raised to 21,700 tons in 1912. As the works grew fewer in number, but individually stronger, they were led, by reasons of transport, supplies, etc., to group themselves in regions favourable to production. In 1875 pig-iron was manufactured in fifty-seven departments; in 1912 four-fifths of the pig-iron and three-fourths of the steel production had been concentrated in two departments, Meurthe-et-Moselle and Nord. The Steel and Iron Masters' Association dates from 1864. After twenty years it became the Employers' Federation of Iron Masters, the exclusive object of which was the study and defence of the economic, industrial, and commercial interests of the ferro-metallurgical industry. In 1914 the association numbered 252 adherents, representing 97 per cent. of the French production of pig-iron and 93 per cent. of steel. The total capital involved was 1150 million francs, and the number of workmen employed about 200,000, who in 1912 received 400,000,000 francs.

IN a lecture on "The Sudd Reservoir," delivered at a meeting of the Institute of Egypt at Cairo on February 17, Sir William Willcocks reaffirms the claim that the problem of reservoir storage in the Nile Valley for irrigation purposes has been solved by Mr. John Wells and himself in their report on the sudd region of the White Nile. In support of his contention he adduces certain figures to show that, under the conditions prevailing in the Lower Nile, there is a shortage of 6 milliards of cubic metres of water out of the $13\frac{1}{2}$ milliards required annually for cultivation purposes in Egypt. This is after deducting 2 milliards as the capacity of the Aswan Reservoir as it stands. Sir William estimates that the 6 milliards deficiency can be made good from the natural storage supplies in the sudd region at a cost of about 6,000,000*l.*(E). He also advocates the entire reconstruction of the Aswan Dam at a cost of 3,000,000*l.*(E.), on the ground that the present dam is not high enough and possesses "serious defects and shortcomings." The sudd region has, of course, long been regarded as an unfortunate blemish on the White Nile, both as regards navigation and drainage. It is covered with a dense mass of decayed vegetation, papyrus roots, reeds, and grasses, resembling peat almost in its consistency, and offering an obstruction which on more than one occasion has had to be cut through for something like fifty miles in order to obtain a passage for boats. Sir William characterises it as one of the most wonderful reservoirs in the world. "A score of milliards of cubic metres of water stand well above the level of the flat plain as though they were congealed. It is a veritable glacier at the head of the White Nile, and feeds it as the Himalayan glaciers feed the Ganges."

ONE of the most interesting ships added to the Navy during the war was the seaplane-carrying ship *Argus*, built by Messrs. William Beardmore and Co., Ltd., at Dalmuir. A fully illustrated account of this ship appears in *Engineering* for March 28. There is absolutely no obstruction on the flying-deck, not even funnels, and there is space under this deck for the accommodation and repair of seaplanes. She is, therefore, a floating hangar, the space given up for this purpose being 330 ft. long, 68 ft. wide overall, and 48 ft. clear, with a clear height of about 20 ft., and is of a capacity regarded as sufficient to accommodate twenty seaplanes. Hoists are provided from the hangar to the flying-deck, and cranes are available for lifting the seaplanes from the water on to the hangar-deck. The vessel was laid down originally as a first-class passenger and cargo steamer, and the Admiralty decided in 1916 to have her completed as a seaplane carrier. The navigating bridge, bridge-houses, wireless offices, etc., are placed forward under the flying-deck. The chart-house is capable of being raised above the flying-deck level or lowered to a stowing position under the flying-deck by hydraulic power, and when in a raised position commands a clear all-round view.

MR. F. EDWARDS, 83 High Street, Marylebone, W.1, has just issued a Catalogue (No. 389) of upwards of nine hundred new and second-hand works dealing with anthropology, folk-lore, archæology, and kindred subjects. Among the items listed we notice a batch of fifty-eight volumes of the Folk-lore Society's publications, comprising the *Folk Lore Record*, the *Folk Lore Journal*, *Folk Lore*, *County Folk Lore*, and "Extra Publications"; a complete set of the Psychical Research Society's Proceedings; Wright's "The English Dialect Dictionary," 6 vols.; Catlin's "North American Indian Portfolio" (coloured illustrations); long runs of the Journal of the Royal Anthropological Institute and of *Man*, and Reports 1 to 28 of the Bureau of American Ethnology. The catalogue is sent free upon application.

THE following are among the announcements of forthcoming books of science:—"The Environment of Vertebrate Life in the Late Paleozoic in North America: A Paleogeographic Study," E. C. Case (*Washington: Carnegie Institution of Washington*); "Psychoses of the War, including Neurasthenia and Shell Shock," Lt.-Col. H. C. Marr; "The Nervous Child," Dr. H. C. Cameron (*Henry Frowde and Hodder and Stoughton*).

OUR ASTRONOMICAL COLUMN.

JUPITER.—Observers of the surface of this planet have remarked that not for many years past has Jupiter presented so many interesting details as it has in the apparition that is now passing away. It has been noticed that the south equatorial belt has been unusually faint and its components extremely narrow, but it has gained redness in some parts, whilst the north equatorial belt has been losing its redness. This apparent transference of colour appears to be a periodic phenomenon. The feature known as the south tropical disturbance, first seen in 1901, the movement of which, especially with reference to that of the red spot, has been observed continuously since that time, became faint in the early months of this year, and in April this marking, together with the hollow in the south equatorial belt, in which the red spot lies, had quite disappeared, whilst the spot itself was seen only by some observers and in favourable circumstances.

NOVA AQUILÆ, 1918.—Observations of the nova of last year that have been already made in the morning sky show that the star is now fainter than sixth magnitude, for it has been estimated to be about 0·1 magnitude fainter than the neighbouring star B.D. + 0·4027°, which appears as 6·26 in the Revised Harvard Photometry. A note from the Bergedorf (Hamburg) Observatory in the *Astronomische Nachrichten* of April 7 describes its spectrum about the date April 4 as consisting essentially of three bright lines in the red, yellow, and blue-green, and its appearance in the ordinary stellar eyepiece as a small reddish-yellow image covered by a bluish-green disc. The difference of focus gives a decided parallactic effect, looking slantwise, and the appearance is that of a double star with components of these colours.

"ANNUAIRE DE L'OBSERVATOIRE ROYAL DE BELGIQUE."—The volumes of this publication for the years 1915, 1916, 1917, and 1918 have lately been received. The first was printed and published in 1914 in the ordinary course, but the last three bear the date 1918 on the cover, and the preface to each is signed by M. Stroobant, Chief Astronomer of the observatory, *vice* the Director, the date of signing being 1918 November 11, the day of the armistice. These facts are significant, and the explanation is that the three books were printed in Brussels year by year without the knowledge of the occupying Power during the war, but were not issued because they would have had to be submitted to the enemy censor. The *Annuaire* for 1916, like the earlier volumes of the series, comprises what is practically a complete treatise on descriptive astronomy. There will be found in it definitions, descriptions, tables, photographs of nebulæ, comets, and star clusters, and a history of the recent progress of astronomy. The later volumes are less complete, and much of the information about the current events of astronomy had to be omitted because astronomical publications did not reach Belgium during the war. M. Stroobant, who is to be congratulated on carrying on in such unusual and painful circumstances, is responsible for the preparation, because M. Lecointe, the Director of the Royal Observatory, has been serving in the Belgian Army. It is worthy of remark that Greenwich civil time, which is the official time of the country, is used throughout, and this doubtless was one reason for keeping these volumes from the eyes of the enemy. The preface to the edition for the current year, 1919, which was signed on 1918 November 18, contains the pleasing announcement that, as the country is now liberated, the *Annuaire* will be able to appear in the future unfettered.

SCIENCE AND THE CLASSICS.

THE Classical Association held its annual meeting at Oxford on May 16–17, and Sir William Osler delivered the presidential address on "The Old Humanity and the New Science." Sir William began by referring to the history of the Divinity School, in which the meeting was held. It had been frequented, he said, by Linacre, who, in addition to being a pioneer in medical education, had achieved a great reputation as a scholar. It had known the times when the natural sciences were so much neglected that the belief was solemnly maintained that fossils had been buried in the earth to test man's belief in the omnipotence of the Creator. The last century had witnessed extraordinary developments in scientific knowledge of every sort, and the interest taken in discovery on one hand, and social progress on the other, had rather thrown the old humanities into the background. It might be maintained, from the part played by Science during the war, that its chief result had been to add to the sum of human misery; but, all things considered, such utilisation of discovery could not be fairly used as a reproach against Science; the fault lay in the degradation of the human mind which the horrors of the last five years had brought about. Sir William was rather inclined to subscribe to the opinion that the invention of firearms had been one of the main causes which saved the human race from destruction. But to assure the continued well-being of the race a different kind of education was necessary. The solution of the difficulty would be found in the union of Science with the Humanities. Germany, in which scientific education had been systematically developed, nevertheless had paid far greater attention to the study of the classics than any other modern nation.

The attitude of our modern society towards classical education might be compared with that of ants and wasps, which protect their larvæ, but require from them a return in the form of a honey which they secrete; and if the larvæ do not exude it freely, the V.A.D. wasps will nip their patients' heads to cause a quicker flow. The academic larvæ of to-day were much to blame, and it was for them to see to it that they exude their nectar more willingly. There had been practically no change in the papers set for "Greats" between 1831 and 1919; and, indeed, in 1267 the teaching of the schools was very much as it